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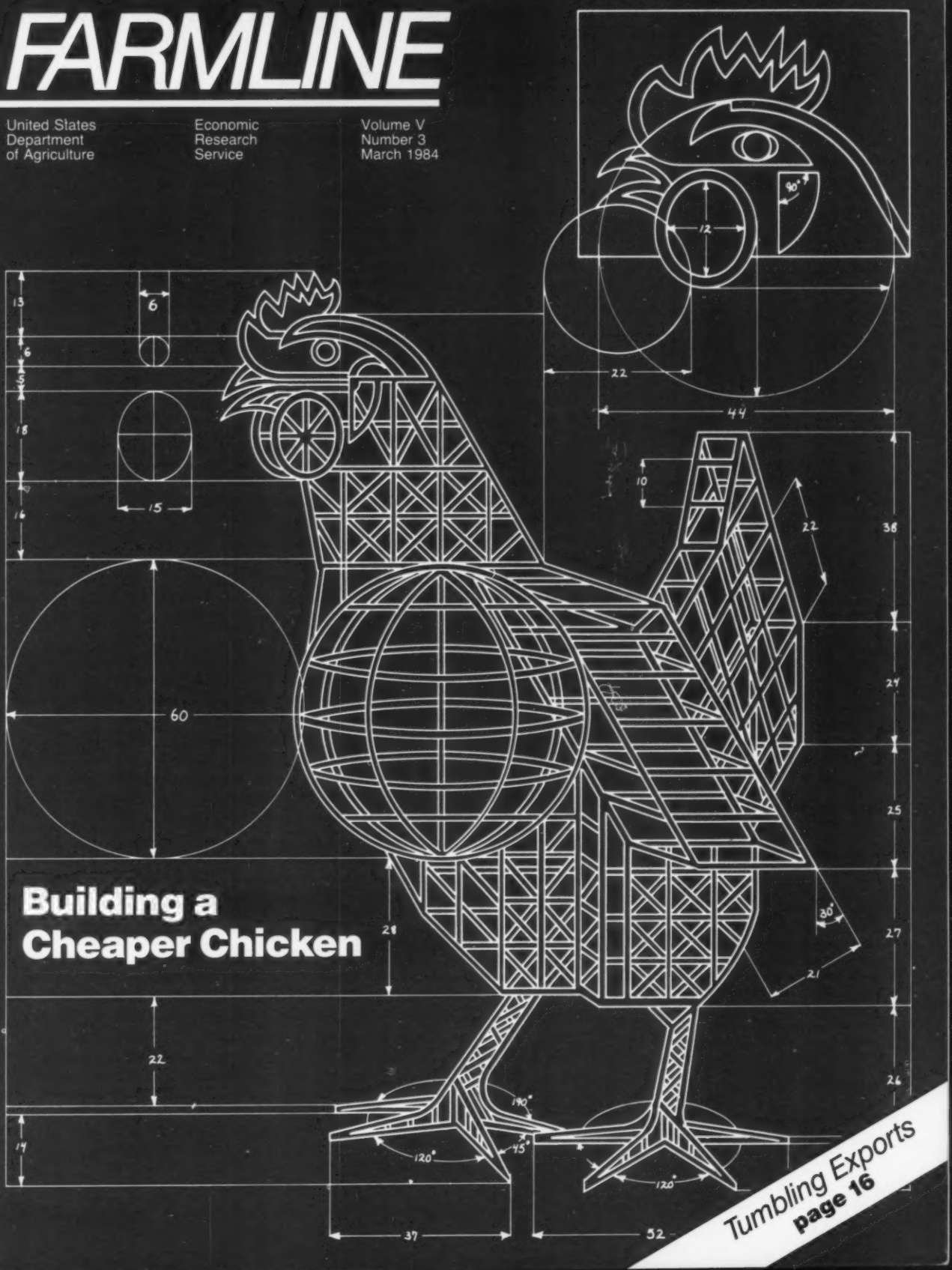

Building a Cheaper Chicken

Tumbling Exports
page 16

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PERSPECTIVES

THE AVIAN INFLUENZA OUTBREAK is another recent reminder that technological progress has curbed, but not eliminated, nature's potential as a spoiler in agriculture. The virus raises two important questions: How significant is the danger to the poultry industry? And, have current production practices left the sector more vulnerable to diseases such as the avian virus? Both questions are keenly relevant to this month's cover article documenting the growth of a modern poultry industry heavily dependent on environmental and biological controls.

Experts agree that further spread of the virus could pose a serious threat to the industry, but USDA poultry specialists are fairly confident that the disease will soon be eradicated. Although isolated outbreaks have occurred in New Jersey, Maryland, and Virginia, the deadly form of the virus has been largely confined to southeastern Pennsylvania where it was first detected last October.

As of late February, more than 11 million birds——mostly laying hens and broilers——had been destroyed in the campaign to wipe out the virus. About 2.8 million chickens were destroyed in November and more than 5 million in December. During January, the toll dropped to 2 million as the spread of the flu slowed. More than a third of the destroyed birds were broilers, and they can be replaced rapidly. Broilers are normally slaughtered at 7 to 9 weeks old, so the industry is geared to a short turnaround.

Layers have a much longer productive life of 1½ to 2 years and can only be replaced after 5 to 6 months. However, farmers can and have kept healthy hens a few months longer than usual to make up for those lost because of the virus. The layers destroyed during December represented a relatively large share of Pennsylvania's flock but only about 1% of all U.S. layers on hand that month.

Farmers whose flocks must be destroyed are compensated under a USDA indemnity program for costs of raising the birds. Some producers aren't satisfied with the rate. They say it will take them many months to rebuild their operations, and lost birds mean lost income needed to meet mortgage payments and other bills.

The "lethal" strain of avian influenza is very contagious and can cause high death losses among chickens and turkeys. While not harmful to humans, it's easily spread by people, vehicles, equipment, poultry, and perhaps wild fowl. Delivery trucks, specialized labor crews, even mail carriers can take it from farm to farm, carrying infected manure or dust on clothing, shoes, tires, egg flats, just about anything.

Because there is no cure, prevention is the key word. When an outbreak does occur, early detection, containment, and eradication become the prime concerns. Modern poultry production practices have both advantages and disadvantages related to disease prevention and control, according to veterinarian Allan Furr of USDA's Animal and Plant Health Inspection Service.

"Producers have greatly reduced the risks of disease through inoculation and feed additives," he notes. "Confinement houses tend to minimize exposure to other animals and parasites that may be found around a farm. Also, large-scale producers generally notice and respond quickly when sick birds stop eating or laying. In many operations, feed and water consumption can be closely monitored."

Others point out that confined chickens on a few hundred large farms are easier to track down, contain, and destroy than an equal number of infected birds running around thousands of smaller farms. But modern production practices and concentrated facilities can have drawbacks once disease strikes. *(Continued on page 5)*

FARMLINE

AGRICULTURE . . . NATURAL RESOURCES . . . RURAL DEVELOPMENT
Practical economic intelligence from USDA's Economic Research Service

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Poultry farming has come a long way from the barnyard operations of the past. It's now a highly specialized agribusiness in which a relatively small group of large producers provide most of the nation's eggs, chickens, and turkeys. According to economist Floyd Lasley, this is a success story, especially from the consumer's point of view.

Dairy: The Government's Role *by Ellen Banker* 7

How and why the government steps in to regulate the dairy industry adds a complex dimension to the milk picture. Last month's article, "Dealing with Dairy Surpluses," examined the surplus problem and efforts to find a solution. This month, we look at the government's role in the dairy industry.

A City Is A City Is A City . . . Or Is It? *by Ellen Banker* 10

In 1940, "metropolitan" status was granted to cities with populations of 50,000 or more. Since then, the category has been stretched to accommodate twin cities, central municipalities surrounded by populous suburbs, even places where the biggest city looks more like a small town. The metro label may lose its meaning because almost everyone wants in.

A Growing Market in the Caribbean *by Doug Martinez* 12

The Dominican Republic may be a tiny island nation, but it's a growth market for U.S. agricultural exports. Purchases are expected to reach $400-$500 million by the end of the decade. This is the first in a series of "export market profiles" on more than a dozen nations deserving greater attention from sellers of American farm products.

Exports: Why the Tons Came Tumbling Down *by Eric Van Chantfort* 16

It's a multibillion-dollar question: What happened to U.S. agricultural exports in the last 2 years? Two analysts, an American and an Australian, teamed up to offer some very specific answers. After identifying several major factors affecting trade, they isolated each factor in an attempt to quantify its individual impact on U.S. exports.

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From Barnyard Flocks to Big Business

The changing structure of the poultry industry over the last three decades has led to the highly efficient and concentrated industry we see today, according to economist Floyd Lasley of USDA's Economic Research Service.

"It's a story that the poultry industry can be proud of and consumers can be grateful for," Lasley contends. "Broiler and turkey producers have supplied increasing quantities of high quality meat, and they've made it available at declining real (inflation-adjusted) prices."

In October 1983, before frigid winter temperatures and the avian influenza jolted prices upward, consumers were buying broilers at an average 74 cents a pound, eggs at 98 cents a dozen, and turkeys at 95 cents a pound. In real terms, these prices were one-half to one-third the levels of the mid-1950's.

How did the poultry industry achieve this?

Poultry farming has come a long way from the backyard operations of the past. It's now a highly specialized agribusiness in which a relatively small group of large producers provide most of the nation's broilers, eggs, and turkeys.

In the late 1940's, broiler production was still largely a byproduct of egg production. Since then, several developments have contributed to the emergence of a modern broiler industry:

- Advances in poultry breeding, nutrition, and disease control made it possible to raise large flocks of heavy meat birds under one roof. These advances also shortened the time required to bring a bird to market weight (from 73 days to reach 3.0 pounds in 1955 to 52 days to reach an average of 4.1 pounds today).

- New housing designs and automated feed-handling, watering, and temperature-control equipment allowed year-round production of large flocks. Meanwhile, the labor required to produce 100 pounds of broilers declined from 5.1 hours during 1949–50 to an average of only 8 minutes during 1976–80.

- New techniques for organizing production resources and practices, including contract production and vertical integration, allowed greater economies of scale, boosting productivity while reducing the cost of producing each broiler.

Conditions were ripe for the adoption of these new technologies and management tools. Feed companies began to finance poultry operations as an outlet for their feed. Depressed farm conditions in the South and the decline of cotton and traditional southern agriculture provided a large group of producers receptive to new ideas. The market potential was also promising because broiler production had previously been seasonal since it was tied to egg production.

Industry Growth

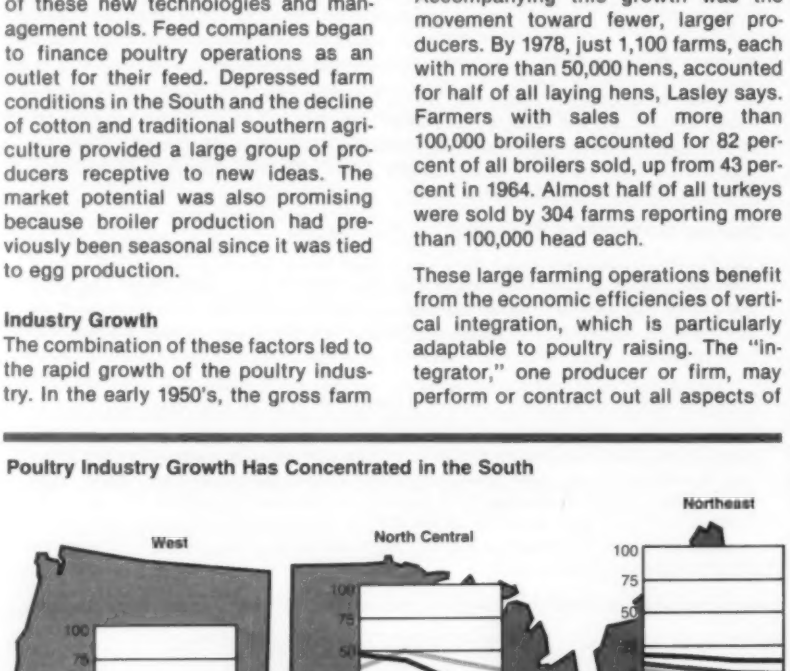
The combination of these factors led to the rapid growth of the poultry industry. In the early 1950's, the gross farm value of broilers was only $533 million, $270 million for turkeys, and $2.0 billion for eggs. By 1981, the gross farm value had risen to $4.5 billion for broilers, $1.2 billion for turkeys, and $3.6 billion for eggs.

Accompanying this growth was the movement toward fewer, larger producers.

Accompanying this growth was the movement toward fewer, larger producers. By 1978, just 1,100 farms, each with more than 50,000 hens, accounted for half of all laying hens, Lasley says. Farmers with sales of more than 100,000 broilers accounted for 82 percent of all broilers sold, up from 43 percent in 1964. Almost half of all turkeys were sold by 304 farms reporting more than 100,000 head each.

These large farming operations benefit from the economic efficiencies of vertical integration, which is particularly adaptable to poultry raising. The "integrator," one producer or firm, may perform or contract out all aspects of

Poultry Industry Growth Has Concentrated in the South



Poultry farming has come a long way from the backyard operations of the past.

production, processing, and marketing, including breeding flocks, hatcheries, feed milling, growout, processing, and delivery to buyers.

"Vertical integration," says Lasley, "is both the cause and effect of increased productivity in the poultry industry."

USDA economist Allen Baker, also a poultry specialist, emphasizes the highly competitive nature of the business.

"All producers have the goal of being the largest in the poultry industry," he says. "Everyone is operating on such a fine line—high volume, low markup—that all are vulnerable to another firm that might pick up a cost-saving development first. Thus, there's a rush for any new efficiency."

Because of vertical integration and the short turnaround of the poultry production cycle, Baker says, there's a quick response to consumers' needs. "Communication all along the line back from the supermarket to the wholesaler, producer, and breeder can take place in a short time, and development of the desired type of poultry can get started. It takes much longer—even years—with other meat agriculture, mainly because of the longer biological growth cycle of other animals," Baker maintains.

Marketing Poultry

Both economists point out that the poultry industry's product offers multiple marketing opportunities. Poultry can be sold whole, cutup, or further processed in a wide variety of ways. Sales of both cutup and further processed broiler and turkey products have grown more rapidly than demand for whole chickens and turkeys.

Chicken or turkey parts packaged separately—drumsticks, wings, breasts, thighs—and further processed chicken, such as deboned, filleted, breaded patties, and even chicken and turkey franks, make up an increasing portion of total sales. Over 42 percent of broilers are cut up and 10 percent are further processed; for turkeys, 27 percent are cut up and 37 percent further processed.

Small families, working women, and fast food restaurants are attracted to this further processed chicken for its greater choice, flexibility, and convenience. Since 1960, sales of further processed poultry have increased about 600 percent.

Meanwhile, turkey has been successfully promoted as a year-round meat. In 1960, more than half of turkey consumption took place from October to December. Now only one-third of total turkey sales are during the last quarter of the year. Year-round sales have

Avian influenza—continued from page 2

"In most modern poultry operations, birds are almost genetically identical," Furr says. "They share the same environment and receive the same feed and medical care. These factors produce uniformity in meat-type birds and graded eggs, and allow the best genetic traits to be passed from one generation to the next. The same factors may leave birds equally vulnerable to new strains of viruses."

After an initial infection, disease can spread rapidly from bird to bird in the confinement facility of a large egg or broiler producer. Where producers are concentrated in certain geographic areas, proximity may also contribute to the spread of the disease from one farm to another.

Similar risks probably apply to all forms of agriculture. Widespread dependence on certain nonresistant seed varieties contributed to the impact of the 1970 corn blight. Likewise, the concentration of certain crops in some production regions may leave the nation more vulnerable to drought in those regions. It may also permit the rapid spread of insect pests from one field to another.

Research has reduced these risks over time, but such tradeoffs may be part of the price paid for an abundant, low-cost food supply. Economists generally agree that the alternatives to modern management practices and large-scale production are much higher costs of production and higher food prices.

The avian virus, smaller laying flocks, and freezing winter temperatures that reduced laying rates are all responsible for the runup in poultry and egg prices. But economist Floyd Lasley makes a telling point: Recent record highs in retail eggs could be typical of everyday prices if the nation were still being supplied by flocks of barnyard hens.

A small group of large producers provide most of the nation's eggs, broilers, and turkeys.

boosted per capita consumption of turkey to 10.8 pounds in 1982, up from 4.1 pounds in 1955.

Currently, the poultry industry is also reaping benefits from an unexpected source: dietary and health concerns of Americans.

Because of all these factors, the poultry industry has enjoyed sharp growth in consumption and retail spending on poultry products:

- Since 1955, per capita consumer expenditures have tripled for turkeys and more than quadrupled for broilers.
- Americans now consume 65 pounds of poultry per person per year on the average, more than double the rate of 25 years ago. Beef consumption has increased only from 64 pounds in 1955 to the 1983 estimate of 78 pounds per capita, while pork consumption has fluctuated around 60 pounds per capita.
- Changing consumer preferences, however, have lowered per capita consumption of eggs from 360 a year in 1955 to 265 in 1982—despite egg prices that frequently fall below costs of production.

Marginal Profits

Although the poultry industry's growth presents a rather astonishing success story, especially from the consumer's point of view, the industry is financially hard-pressed, according to Lasley. It has grown so fast that prices are often forced below the cost of production. With marginal profits and strong competitive pressures, producers look for profits from cut-up and further processed poultry products, not from whole chickens or frozen turkeys.

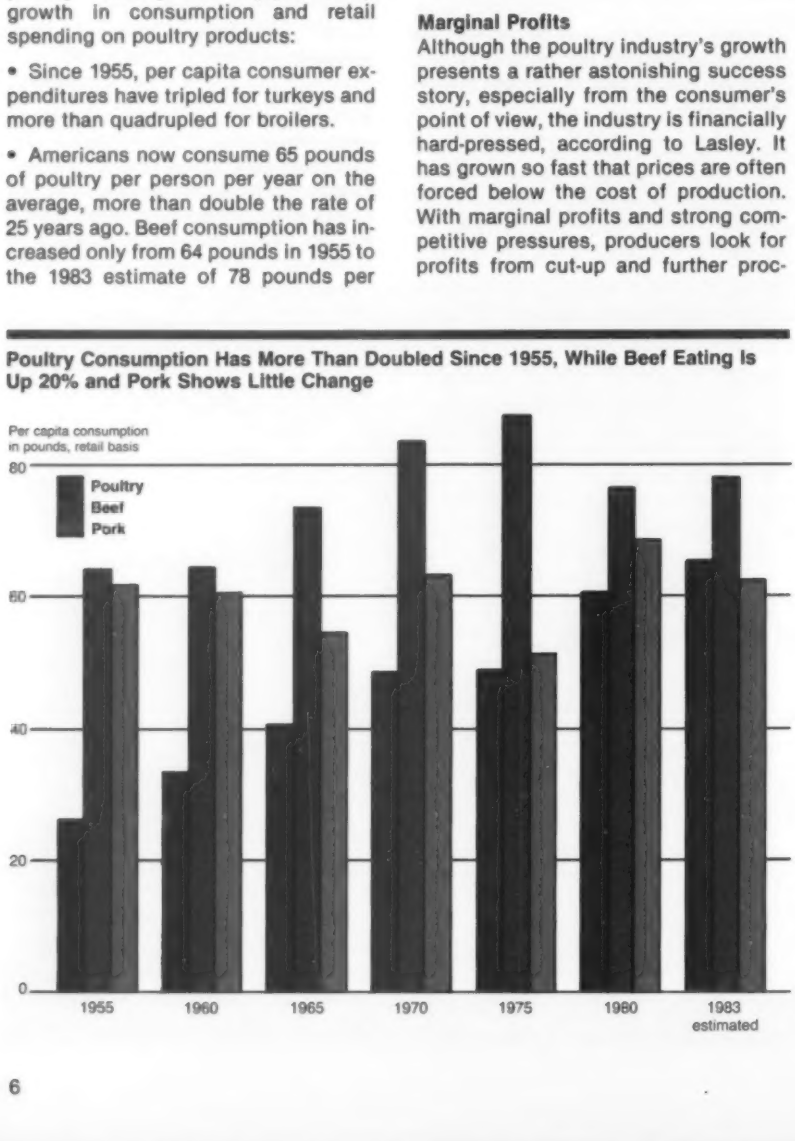
In the past, the poultry industry has depended on continued expansion in the market, continued growth in productivity, and adaptation to changing consumption patterns. With this history, what are the prospects for the future?

"Continued progress, with further expansion into poultry processing," Lasley predicts. The major economies of scale have already been realized, so productivity gains may come more slowly than in the past. Poultry producers and processors will continue to shrink in number but grow in output during the 1980's, he says.

Favorable consumer acceptance of further processed chicken will lead to a variety of new products and choices for consumers, Lasley foresees. But, with slower growth in consumer demand, the industry will have to search out new markets, perhaps increased exports of poultry products or adaptation to the specialized needs of rapidly growing domestic markets, such as the fast food industry. □

[Based on information provided by economists Floyd Lasley and Allen Baker of the National Economics Division, Economic Research Service.]

Poultry Consumption Has More Than Doubled Since 1955, While Beef Eating Is Up 20% and Pork Shows Little Change



The growth of a modern poultry industry is documented in Lasley's report, *The U.S. Poultry Industry: Changing Economics and Structure*. The report examines poultry production, marketing, consumption, and prices from 1955 to 1981. Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Telephone requests can be charged to Visa, MasterCard, or GPO Deposit Accounts (phone 202-783-3238). Cost is $3.25. Ask for the report by title and stock number *001-000-04342-1*.

Dairy: The Government's Role

A new dairy diversion program began on January 1, offering to pay dairy farmers to reduce their milk marketings. The intention is to trim the nation's milk output and cut the amount the government spends in buying and storing surplus dairy products.

The signup, which ended January 31, was not as large as many backers of the legislation had hoped for. Preliminary figures indicated that around 38,000 dairy farmers contracted to reduce their marketings about 7.5 billion pounds (annual basis)—a substantial amount but less than the surplus. Marketings in 1982-83 reached nearly 136 billion pounds, with USDA purchases of 16.6 billion pounds.

Also, producers not in the diversion program could offset some of the reductions made by participants. Those who signed up for the program represent about 12 percent of the nation's milk cow operations.

Last month's article, "Dealing with Dairy Surpluses," examined the surplus problem and efforts to find a solution. This month, we look at the government's role in the dairy industry.

Why and how the government steps in to regulate the dairy industry adds another dimension to the milk picture.

The why involves the dairy industry's support for federal dairy programs as well as broader based concerns about ensuring an adequate milk supply at reasonable prices for consumers in virtually every part of the country. The how involves federal milk marketing orders, dairy price supports, restrictions on imports, and special policies toward cooperatives—tools said to be important in maintaining the productive capacity of the industry.

Most of these programs had their origins during the Great Depression. At that time, economic conditions for farmers were so unsatisfactory that improving milk prices overshadowed all other objectives, according to USDA economist Cliff Carman of the Economic Research Service.

Frustrations led to the Farmers' Holidays of 1932 when farmers withheld their products, even dumping milk rather than accepting prices offered by milk handlers. It was a grass roots movement that brought the plight of farmers to national attention.

The result: New Deal agricultural legislation providing for federal milk marketing orders and dairy price supports.

Federal milk marketing orders must be requested and approved by the dairy farmers in each marketing area. Currently, there are 45 federal orders. Each federal order sets minimum prices that handlers of grade A milk pay dairy farmers in that geographical market based on how the milk is used (one price for milk used in fluid products and a lower price for milk used in manufactured products).

The order prices are based on a specified relationship to the Minnesota-Wisconsin (M-W) price. That's the average price paid by unregulated plants in Minnesota and Wisconsin for manufacturing grade (grade B) milk used in making cheese, butter, and nonfat dry milk powder. The M-W price is not set by the government, but it is indirectly tied to the government support price.

Undergirding Dairy Prices

Essentially, the support price is the price goal the government would like farmers to receive from processors for milk that is used in making manufactured products. It is a goal rather than an absolute price floor because the government purchases manufactured products from processors, not fluid milk from farmers.

In order to meet the goal, the government offers, through the Commodity Credit Corporation (CCC), to purchase three manufactured products—butter, nonfat dry milk powder, and cheese. The CCC uses an equation that combines the support price with a manufacturing allowance (basically manufacturing costs plus some profit) to set an offering price. This is the price the CCC offers processing plants for the manufactured products. The objective is to allow processors to pay at least the support price to farmers for the raw milk that goes into manufactured products. Since most fluid milk prices are based on prices paid for manufacturing grade milk, the price support program undergirds all milk and dairy product prices.

Price supports have been set between 75 and 90 percent of parity since 1949. By lowering the support price to $12.60 on December 1, 1983, the new dairy bill has reduced the support price to about 62 percent of parity, according to Carman. Parity is a relationship between prices paid and received by farmers compared with the price relationships in 1910-14. In other words, 100 pounds of manufacturing grade milk that sold for $12.60 would purchase about 62 percent of what it did 70 years ago.

Some analysts say that the 1977 farm legislation, which boosted the minimum support level to 80 percent of parity and also required a midyear adjustment, was the turning point in the dairy surplus problem. The 1977 law removed any discretion available to the Secretary to adjust prices downward and removed much of the uncertainty as to the future direction of milk prices.

This was a clear signal for farmers to expand. In 1980, for the first time since the mid-1950's, the nation's dairy herd increased, and it has grown every year since. Although the semiannual adjustment was dropped on April 1, 1981, there are still more cows, more milk, and more government purchases.

[Based on information provided by Cliff Carman and Dave Banker of the National Economics Division, Economic Research Service.]

AGRICULTURAL ROUNDUP

Bolstering Our Caribbean Ties

A 12-year U.S. program to strengthen the developing economies of Caribbean Basin countries may eventually have some dividends for American farmers and agribusinesses.

The Caribbean Basin Initiative (CBI), which began January 1, 1984, provides a one-way free trade zone into the United States for about two-dozen Caribbean countries.

Particularly encouraged under CBI are joint ventures between U.S. companies and entrepreneurs in the Caribbean countries, with the Americans providing much-needed financing, expertise, and equipment. The Caribbean countries furnish the raw materials and human resources.

So far, 21 of 28 Caribbean Basin countries have applied and been accepted for participation in the duty-free trade program. They are Anguilla; Antigua and Barbuda; Barbados; Belize; Costa Rica; Dominica; Dominican Republic; Haiti; Honduras; Jamaica; Panama; El Salvador; Grenada; Guatemala; St. Lucia; St. Vincent and the Grenadines; Trinidad and Tobago; Montserrat; Netherlands Antilles; St. Christopher-Nevis; and the British Virgin Islands.

The CBI exempts most of their products from U.S. import duties. The major exceptions are textiles and wearing apparel, petroleum products, and canned tuna.

All this is not expected to mean increased competition for U.S. farmers. Most agricultural products exported by these nations are considered "noncompetitive." They include sugar, coffee, cocoa, bananas, and tropical fruits—products not produced here, or not produced in sufficient quantities to meet American demand.

On the other hand, Caribbean countries import U.S. wheat, flour, corn, oilseeds, and other agricultural commodities. Difficulties in financing international purchases, internal poverty, and other economic problems are a major restraint on import demand. Faster development and rising incomes would have benefits beyond their borders.

In the long run, says economist Richard Brown of USDA's Economic Research Service, the potential rewards to the United States include increased demand for U.S. agricultural products, sales of U.S. machinery and materials, an improved balance of trade, and enhanced U.S. relations with the individual countries.

Andres Delgado, an agricultural economist and staff member of USDA's Office of International Cooperation and Development (OICD), agrees.

"People from poor nations can't afford to be our customers. If

Gleanings

Corporate farms are a family matter . . . The growth in corporation farms (their numbers nearly doubled from 1974 to 1978) has come largely from family farmers who see advantages in corporate organization. Only about 51,000 or 2 percent of U.S. farms were identified as corporations in 1978, and most of those units were family owned and operated, with the owners related by blood or marriage. The nonfamily corporations numbered fewer than 6,000—just two-tenths of 1 percent of the 2.4 million farms nationwide. Despite their small numbers, the nonfamily farm corporations rang up more than 6 percent of the value of U.S. agricultural sales. They also owned nearly 4 percent of U.S. farmland, but about half their acreage was rented out to others.

Decline in farm numbers doesn't tell all . . . While the nation lost 550,000 farms between 1970 and 1982, the number of primary farms—those with $40,000 or more in annual sales—tripled in number. These $40,000-plus farms make up less than 30 percent of all farms, but they provide most of the nation's food and fiber. In 1982, they collected more than 80 percent of the farm sector's total cash receipts from crop and livestock marketings.

More nonfarmers own land . . . There were about 6 million owners of American farmland in 1978, nearly the same number as in 1946. The difference was in composition. In 1978, only one out of three farmland owners was a farm operator, compared with seven out of ten in 1946. The others were nonfarming landlords renting or leasing to farmers.

. . . but most operators are owners, too. Though outnumbered by nonfarming landlords, farmers have larger average landholdings. And about nine out of ten farmers are landowners, holding title to all or part of the farms that they operate. On average, farmers own more than 60 percent of the land that they farm and a roughly equivalent share of the nation's total farmland acreage.

Can the owner-operator farms survive? . . . "Farmers are frequently caught between cash outflows that reflect the longrun value of farmland, and cash receipts that reflect temporarily lower price conditions. These problems are aggravated by the fact that, under the owner-operator form of organization, farms must be internally refinanced once each generation—either by a new generation taking over from their parents and buying out other heirs, or by a new entrant purchasing the farm. The cash flow difficulties of beginning farmers constitute a barrier to entry that raises the question of whether the traditional system of owner-operator farms will be able to perpetuate itself. If only the well-established farmers and nonfarm investors are able to purchase farmland, then owner-operator farms could disappear. If this were to happen, what system would replace it, and how would that replacement system perform?" —*economist David Harrington.*

we help them improve their economy, they will become better trading partners for U.S. goods," says Delgado.

"For instance, if we build a packing plant in one of these countries, we create employment. In return, they will buy the machinery for the plant from the United States. They can produce more, they can make more, and they'll buy more from the United States."

Agriculture Secretary John R. Block has appointed an Agribusiness Promotion Council to push development activities in the Caribbean region. Chaired by Ray Goldberg of Harvard University, the council advises USDA on how to promote joint agribusiness ventures aimed at spurring agricultural and economic growth in the area. The council also sponsors visits by U.S. businessmen to area countries and holds periodic seminars to brief businessmen on CBI.

OICD provides staff support for the council and operates the Agribusiness Investment Information Center, which provides background data and technical assistance to investors and others upon request.

Requests for information should be directed to Agribusiness Investment Information Center, Room 4102 Auditors Building, USDA, Washington, D.C. 20250. The telephone number is (202) 447-4515.

. . . these are important questions, Harrington says, but probably not urgent ones. He isn't predicting a farm sector made up of nonfarming landlords and landless tenant farmers. Instead, he expects a continuation in the trend toward part ownership, in which most farmers own some acreage and rent the rest. For the average farm, the percentage of land that's owned by the operator is likely to decline.

Better incomes at both ends of the spectrum . . . The highest farm family incomes are found among the smallest and the largest farms. For those operating very small farms with sales of less than $10,000, family income averaged more than $19,000 in 1982. Overall, it wasn't their farms that made the money; the income came from off-farm jobs. At the other end of the spectrum, families running large farms—sales of $100,000 and up—had average incomes of around $90,000, most of it from the farm operation.

. . . it's the farms in between that aren't keeping up. For farms in the $10,000–$39,000 sales class, total 1982 family incomes averaged only about $15,000. It seems these units are often too small to generate a sufficient income exclusively from farming, yet they're too large to allow full-time employment off the farm. Families with farms in the $40,000–$99,999 sales class didn't do much better, with incomes averaging $16,000. However, their farm-derived incomes have been unusually low since 1980, probably reflecting generally weak product prices combined with higher operating costs.

Leaders

. . . in Beef and Veal Production[1]

	1982	1983[2]	Share of total output, 1983[2]
	thousand tons		
United States	10,425	10,705	26.5%
Soviet Union	6,600	6,900	17.1%
Brazil	2,400	2,500	6.2%
Argentina	2,579	2,320	5.7%
France	1,698	1,769	4.4%
West Germany	1,471	1,460	3.6%
Australia	1,680	1,420	3.5%
Italy	1,107	1,140	2.8%
Canada	1,029	1,050	2.6%
United Kingdom	960	1,010	2.5%
Mexico	1,200	975	2.4%
Colombia	682	653	1.6%
Poland	757	605	1.5%
South Africa	582	582	1.4%
Others	7,169	7,262	18.0%
Total	40,339	40,351	100.0%

Totals may not add exactly because of rounding.
[1] Based on data for 49 major beef producing nations. [2] Preliminary estimate.

. . . in Cow Milk Production[1]

	1982	1983[2]	Share of total output, 1983[2]
	thousand tons		
Soviet Union	91,044	96,800	23.8%
United States	61,596	62,981	15.5%
France	27,358	28,100	6.9%
West Germany	25,465	26,600	6.5%
United Kingdom	16,745	17,600	4.3%
Poland	15,248	15,920	3.9%
India	14,700	15,200	3.7%
Netherlands	12,708	13,080	3.2%
Italy	10,800	11,100	2.7%
Brazil	10,100	10,700	2.6%
Canada	8,258	8,100	2.0%
East Germany	7,817	8,000	2.0%
Japan	6,750	6,900	1.7%
New Zealand	6,775	6,757	1.7%
Mexico	6,924	6,500	1.6%
Others	71,084	72,571	17.8%
Total	393,372	406,909	100.0%

Totals may not add exactly because of rounding.
[1] Based on data for 37 major milk producing nations. [2] Preliminary estimate.

A City Is A City Is A City . . . Or Is it?

Jacksonville, N.C., is what some people might call a pleasant, small town. The population of Jacksonville proper is only about 17,000, and it's similar to many towns its size. There is no Jacksonville Sunday newspaper, Jacksonville television station, or Jacksonville public transit company.

In 1980, however, Jacksonville joined the ranks of New York City, Chicago, Los Angeles, Dallas, Washington, D.C., and a few hundred other metropolises. It was reclassified as a metropolitan area—specifically a Metropolitan Statistical Area or MSA—by the federal government.

Jacksonville is only one example of a trend that raises some difficult questions about the use, or overuse, of the metro classification, according to USDA's chief demographer Calvin Beale of the Economic Research Service.

To most people, Beale says, the MSA category (formerly SMSA, or Standard Metropolitan Statistical Area) carries a suggestion of big city life.

Currently, there are 275 metro areas in the United States and five in Puerto Rico, 111 more than in 1950. The reasons: urbanization of the population until the early 1970's, plus increasingly liberal classification standards for metro areas.

"The program of defining metropolitan areas may be suffering from its own success," says Beale. "Almost everyone wants in. There is a certain cachet to becoming metropolitan, as if the category itself allows an area to leave the image of sleepy small towns and country folks behind."

Image is not the only issue. Because urbanization and population often attract money, the metropolitan category can bring in federal and private dollars.

Over the years, government agencies have used metropolitan status as a minimum qualifier for some federal programs. Community development

The program of defining metropolitan may be suffering from its own success.

grants are one example; some USDA food and nutrition programs are another. An additional consideration might be private business investment. When companies market and advertise their products, they often use lists and ranks of MSAs in deciding where to place ads, Beale says. MSA ranking is also a factor in business relocation decisions which bring new industry and jobs to a community.

Changing the Criteria

Since 1955, Beale has been a member of the MSA advisory committee, a group of government demographers and other specialists, that reports to the Office of Management and Budget (OMB). The committee oversees the metro rules, analyzes census data, and makes recommendations for changing the criteria of the metro program. OMB approves the rules and makes final decisions on which cities and counties qualify.

Over the years, Beale has seen considerable changes in the criteria used for determining a metropolitan area. Most are related to the evolving demands of population, government, and industry.

Thirty years ago, even with their current populations, many "metro" areas would have been considered nonmetro. "Then, metropolitan status was granted only to cities with populations of 50,000 or more," Beale says.

Although the government has been putting the metro label on places of one million people or more since 1905, the 50,000 population rule was formally adopted in 1940. Its first major alteration came in the late 1950's with the twin cities decision.

"Someone pointed out that the rigid classification criteria worked an injustice on places such as Texarkana or Champaign-Urbana. Both areas had the required 50,000 population, but combined in twin cities," Beale says. So an exception was recommended by the advisory committee to include twin cities as long as the smaller city had at least 15,000 residents. The change allowed about a half dozen new areas into the metro category.

"Then, in the late 1960's, officials in Poughkeepsie, New York, complained that the system was unfair to them," Beale continues. Poughkeepsie's population was only 38,000, it had no eligible twins, and no prospects for annexation under New York law. However, city officials pointed out that if the number of residents in several unincorporated places adjacent to Poughkeepsie were added to the city's population, the overall urban population—at 50,000—would qualify for MSA status.

Leaving the Small-Town Image Behind

Metropolitan areas created since 1980:

- Central city population under 25,000; qualified as metro areas under rule that requires no minimum central city population.
- Population 25,000 to 49,999; qualified under the Poughkeepsie rule or the liberalized definition covering contiguous unincorporated areas.

[1]Because their 1980 populations reached 50,000 or more, Casper, Wyo., and Victoria, Tex., qualified as metro areas under 1950's rules.

The committee judged the complaint a reasonable one, and OMB adopted a rule to cover such situations. The one stipulation: Contiguous unincorporated places could be counted toward qualification as long as one central city had a population of at least 25,000. When the results of the 1970 Census were in, 21 municipalities became metro along with Poughkeepsie. Still, not everyone was satisfied.

Metro's Magnetic Status

"If there is one law operating in the MSA admitting process—no matter how the criteria are drawn—it is that some area that fails to qualify dearly wants in," Beale says. In the late 1970's, this was the case with the neighboring Michigan towns of Benton Harbor and St. Joseph. Neither city had the required 25,000 residents to qualify as a central city. However, a total of 50,000 people did live in both cities together plus the contiguous suburbs.

metro areas under the Benton Harbor-St. Joseph
tion.

Poughkeepsie rule or a combination of that rule and
corporated areas.

Casper, Wyo., and Victoria, Tex., would have qualified as

"Local officials felt that they had serious urban problems and needed federal aid only offered to federally classified metropolitan areas," Beale says.

Once again, the standard was revised, this time to fit the Benton Harbor-St. Joseph case. The new rule required no minimum population for the largest city of a metropolitan area. Nine new MSAs, including Benton Harbor-St. Joseph, were created after the 1980 Census.

Another 26 areas qualified under the Poughkeepsie rule, or a combination of that rule and the liberalized definition covering contiguous unincorporated populations as a part of an urban nucleus.

Jacksonville came in under the Benton Harbor-St.Joseph standard. It's located in Onslow County, also home to Camp Lejeune and the New River Marine Corps Air Station. Although Jacksonville's population is only 17,000, an additional 36,000 people live on both adjacent military installations, and 60,000 more in the surrounding county. The total qualifies Jacksonville as a metro area.

"In sum, we now have many official MSAs that lack a demographically dominant central municipality or metropolis," Beale says.

Measuring Metropolitan

Exactly what is a metropolis? The literal meaning is "mother city." However, almost any definition of the word connotes something more than population alone. "Facilities, functions, and even style are implied," Beale says.

To determine just how metropolitan the new MSAs are, Beale developed a "metro test." He classified and scored areas by whether they had nine functions, facilities, and conditions, including a television station; a Sunday newspaper; scheduled airline service; local bus service; a 4-year college; seven specialized hospital services; a museum; county seat status; and urbanization.

The largest 31 MSAs, with urbanized populations of 1 million or more, easily passed, scoring 100 percent on Beale's test. Cities with populations of between 250,000 and 1 million scored just about as well—at 98 percent or more.

On the other hand, one or more of the items on Beale's list were occasionally missing (or sometimes below standard) in MSAs with populations between 100,000 and 250,000, even though 50,000 people did live in a "central city." The average score was 94 percent. Older areas in the same overall size class—but with central populations of less than 50,000—didn't do as well, with average scores of about 79 percent.

New MSAs with city populations of 25,000 to 50,000 scored 61 percent. And the nine MSAs with no central city of 25,000 scored only 40 percent.

The 40-percent group, in particular, concerns Beale. "These detract from the usefulness of the term 'metropolitan' as a definition of an independent area," Beale says.

"Several of these areas are adjacent to larger MSAs and might be legitimately viewed as parts of a larger entity, but hardly as independent areas."

What would he recommend?

"The data indicate that more stringent requirements should probably be imposed for urbanized areas that have no 50,000-class city."□

[Based on information provided by USDA demographer Calvin L. Beale of the Economic Development Division, Economic Research Service.]

A Growing Market in the Caribbean

This article is the first in a series of "Export Market Profiles" on several countries judged to be prime growth markets for U.S. farm products.

Agricultural exports account for about one in every three harvested acres and around one-fourth of U.S. farmers' receipts. Increased foreign sales strengthen U.S. agriculture while improving the nation's balance of trade.

The profiles will focus on more than a dozen developing nations of Asia, Latin America, and Africa—nations which share growing populations and increasing food needs. Few of them are counted among our major customers, but their potential for further market expansion is, in many cases, greater. In fiscal 1983, these fast-growing markets accounted for nearly one-fourth of total U.S. agricultural export earnings.

This series grows out of export market reports prepared by economists of the International Economics Division, Economic Research Service. FARMLINE will keep you posted on all the reports as they become available.

The following article which begins the series is based on ***Dominican Republic, An Export Market Profile****, by H. Christine Bolling and Nydia Rivera-Suarez. This report can be purchased from the U.S. Government Printing Office for $3.50. An order form is provided in our "Reports In The News" section on page 15. A summary of another export market report covering Taiwan also appears on that page.*

Dominican earnings from sugar and other exports are a key factor affecting food imports.

It may be a small island nation, but it's a growth market for U.S. agricultural exports. Despite declines in 1982 and 1983, the Dominican Republic's purchases of American farm products are expected to reach $400-$500 million by the end of the decade. That's double 1980's level of $217 million and more than 10 times the $32 million bought in 1970.

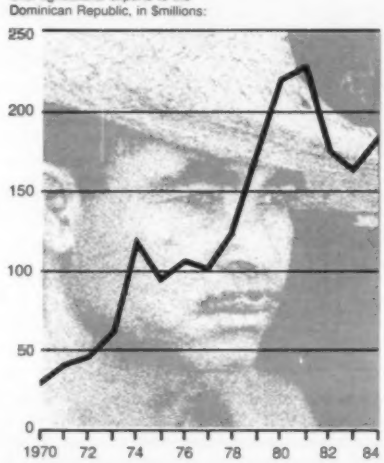
Although the United States seems to be fairly secure in its role as the major supplier of grains and oilseeds to this Caribbean country, it will take savvy and strategy to market more consumer-ready foods.

These are some of the findings of economists H. Christine Bolling and Nydia Rivera-Suarez of USDA's Economic Research Service. The two analysts recently examined the prospects for expanding U.S. agricultural exports to Latin America's 5.5 million Dominicans.

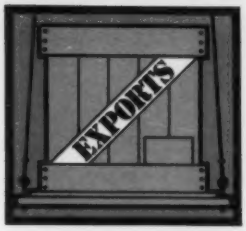
"Right now, the Dominican Republic relies on the United States for 90 percent of its agricultural imports," says Bolling. "Important imports include grains, oilseeds, vegetable oils, tobacco, and inedible tallow." Other products imported in significant amounts from the United States are chicks, fresh and frozen meat, hatching eggs, apples and grapes, fresh potatoes, dried beans, and canned fruit.

A Growing Market

U.S. agricultural exports to the Dominican Republic, in $millions:



1983 estimated; 1984 projected.



On the other hand, the U.S. share is low for imports of dairy products, canned vegetables, and canned soups, all of which are prime targets for market development efforts.

Limited Dependence

For some foodstuffs, the country is totally dependent on the United States.

"The Dominican Republic obtains all its wheat from the United States. Along with rice, wheat fills the food gap that occurred as domestic corn and other carbohydrate-crop production fell in the 1970's," Bolling says.

Imports of wheat from the United States are expected to continue climbing, largely because of an increasing population, rising consumer incomes, and a growing consumer preference for pasta and breads.

Although it is a growing market, the Dominican Republic is a changing one as well. Industrial development has altered the mix of imports during the last 10 years. Imports of wheat, corn, chicks, and hatching eggs have largely replaced high-value finished products like flour and poultry meats. Buying the raw materials to be further processed domestically is a key government objective which cuts across many farm products and industries.

According to Bolling, "corn, for example, is imported along with other ingredients to be processed by the country's own feed manufacturing industry."

The projected growth in imports of U.S. soybeans also reflects this policy. Most processed meal is produced domestically, a fundamental change from the 1970's when the Dominican Republic imported its oilseed meal. Vegetable oils have been brought under this policy umbrella as well. In previous years, the country bought all of its vegetable oils. Now it is gradually shifting into domestic processing of imported soybeans to satisfy its vegetable oil needs.

Income Growth, Increased Imports

"Real growth in per capita income has been the single most important economic determinant of food imports," Bolling explains. Through most of the 1970's, each 10-percent increase in real (inflation-adjusted) per capita income resulted in roughly a 20-percent increase in food imports. Per capita income reached $1,224 in 1980, having increased an average of 5 percent per year since 1960.

Population and income growth will sustain continued growth in food demand.

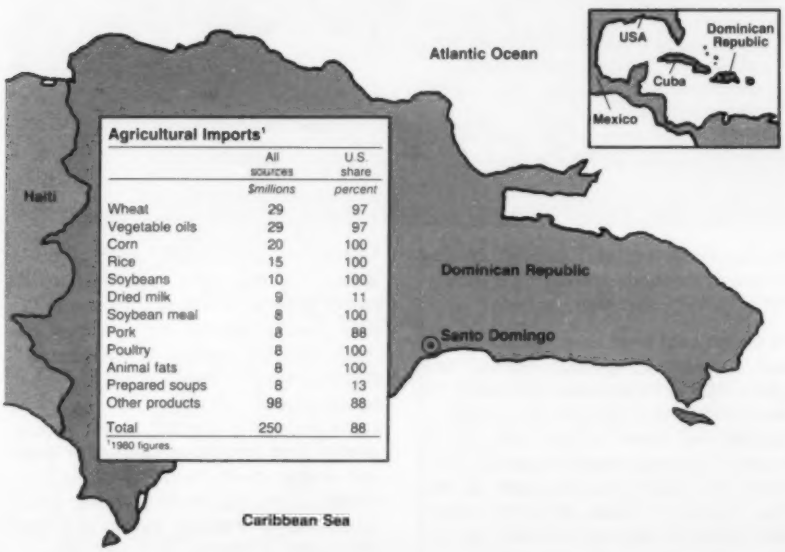
"Population growth continues to put pressures on income growth," she says. The 1960 population of 3 million grew to 5.4 million by 1980, a 3-percent annual growth rate that is one of the highest in the world. Meanwhile, domestic food production increased an average of only 2.8 percent per year since 1960, with the largest gains during the 1970's.

There were, however, some notable successes in domestic food production. Rice output nearly tripled during this period, and a sizable broiler industry was developed based largely on imported hatching eggs, chicks, and feedstuffs, according to Bolling.

About 80 percent of the country's food is from domestic production, making the Dominican Republic less dependent on imports than many of its neighbors.

"Most of the food produced for domestic consumption consists of rice, cassava, mangoes, avocados, bananas, plantains, and milk," says Bolling. "Surprisingly perhaps, our analysis has shown that domestic production does not diminish imports to any significant degree: Each 10-percent increase in domestic food production (excluding export crops) reduced food imports only by about 1 percent."

The products raised primarily for domestic production compete for land



Agricultural Imports[1]

	All sources	U.S. share
	$millions	*percent*
Wheat	29	97
Vegetable oils	29	97
Corn	20	100
Rice	15	100
Soybeans	10	100
Dried milk	9	11
Soybean meal	8	100
Pork	8	88
Poultry	8	100
Animal fats	8	100
Prepared soups	8	13
Other products	98	88
Total	250	88

[1]1980 figures.

with export crops such as sugar, coffee, cocoa, and tobacco. In these products, the Dominican Republic has a substantial comparative advantage over other countries.

"Given this economic advantage," says economist Bolling, "it's unlikely the government would try to displace imports with increased domestic food production, if domestic food production gains came at the expense of its primary exports."

Continued Growth in Food Demand

For the foreseeable future, then, the Dominican Republic will remain heavily dependent on U.S. farm products.

"Population and income growth will sustain continued growth in food demand," Bolling says. "Since domestic agriculture will not likely meet this demand, the country will have to increase its imports of food as well as agricultural raw materials to maintain its agribusiness sector." Growth of the economy depends heavily on agribusiness, mining, and manufacturing.

"Foreign exchange earnings are also a key factor affecting food imports," she says. With a continued favorable investment climate, the inflow of foreign capital and loans should help offset negative trade balances. However, debt servicing could be a problem in the near future if export prices for sugar and mineral exports do not recover soon, according to the analysts.

"Although agricultural imports have slowed in the early eighties, anticipated growth in the Dominican economy should result in rising import demand through the rest of the decade," Bolling says. "With strong market development efforts and P.L. 480 assistance, the United States should continue as the major supplier of fresh and frozen meat, hatching eggs, rice, wheat, corn, deciduous fruits, potatoes, beans, canned fruits, and soybeans and products."□

Sales Tips

Interested in selling farm products to the Dominican Republic? If you are, here are some general guidelines to keep in mind, along with a couple of specific programs that could be helpful.

First off, says Gretchen Stanton of USDA's Foreign Agricultural Service, don't expect to plunge into the handshaking hard-sell right away. There are some important things to do beforehand.

"Do a bit of background reading and plan to visit the country to see the conditions there and get some feeling of the different culture," she says. "Don't think of your market as a smaller version of the United States."

If you're still interested after that early exploration, she advises, plan to print all your product pamphlets and publicity in Spanish. "You should have a representative in the country, since selling without a local agent is very difficult."

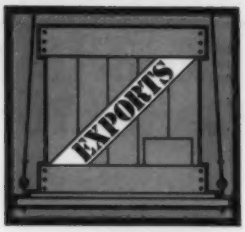
The entrepreneur charting unknown territory in the Dominican Republic should also be aware of potential limiting factors in the market, Stanton cautions. "You may have to offer special credit terms not necessary in the United States, and there may be trade restrictions on some products."

USDA's Foreign Agricultural Service (FAS) may be able to help. It operates a program known as the Trade Opportunity Referral Service (TORS). Individual U.S. exporters can send brief descriptions of their products to TORS. This information is then put in a publication that is sent by the U.S. agricultural attache to those involved in food and agriculture trade in the country.

TORS can also provide a listing of principal importers of agricultural products. This list can be used by U.S. marketers to set up business appointments, make exhibit invitations, and determine the location and number of buyers with a possible interest in U.S. products.

And if the marketing pioneer persists and succeeds, what are the rewards? In addition to the usual monetary ones, there is always the allure of doing business in a beautiful tropical island with white sand beaches and warm azure waters.

For further information on how to enter the Dominican Republic export market, contact: Evans Browne, Program Operation Branch, Export Division, Room 4944 South Bldg., FAS, USDA, Washington, D.C. 20250.



Taiwan: Billion Dollar Market

Taiwan. It's a billion-dollar market for U.S. farm exports, and it'll be an even bigger market by the end of the decade.

That's the forecast of economist Donald Sillers of USDA's Economic Research Service, who recently studied the prospects for increased U.S. exports to Taiwan's 18 million people.

Looking at past market growth and indications of future performance, Sillers says "the United States has been the primary beneficiary of Taiwan's demand for agricultural imports, and will continue to be so through the 1980's."

In fiscal year 1983, Taiwan's purchases of U.S. farm products amounted to $1.2 billion. That compares with 1973's level of $208 million—a billion-dollar increase in just 10 years.

"Income has steadily risen for the people of Taiwan because of rapid industrialization, and that's been translated into a greater demand for meat and other food items," Sillers says.

With a boost in meat demand has come an increase in feed grain and soybean imports by Taiwan, principally to feed an expansion in domestic pork production.

Other major imports include wheat, cotton, tobacco leaf, and wool.

"Purchases of feedstuffs particularly should expand in the 1980's," says Sillers. "Feedstuffs will continue to account for most of the total value of U.S. agricultural exports to the island.

Processed foods and horticultural products offer opportunities for substantial U.S. export growth, but from a much smaller base. "Further efforts to reduce Taiwan's remaining barriers to imports of these products may be useful, but even more important will be market development efforts by U.S. exporters," says Sillers. Among items with particular export potential, he says, are cherries and pears. "These are products that the people of Taiwan like but can't produce in sufficient quantities because of the country's growing conditions.

The soft spot in this pattern of ever-greater American exports is cotton.

"Growth in imports of raw cotton will probably slow because of the island's deteriorating competitive position in world textile markets," Sillers says.

U.S. exports have benefited from Taiwan's official "Buy American" policy. The close relationship between the two countries extends back to the early 1950's, when Taiwan had to depend on massive American aid to survive.

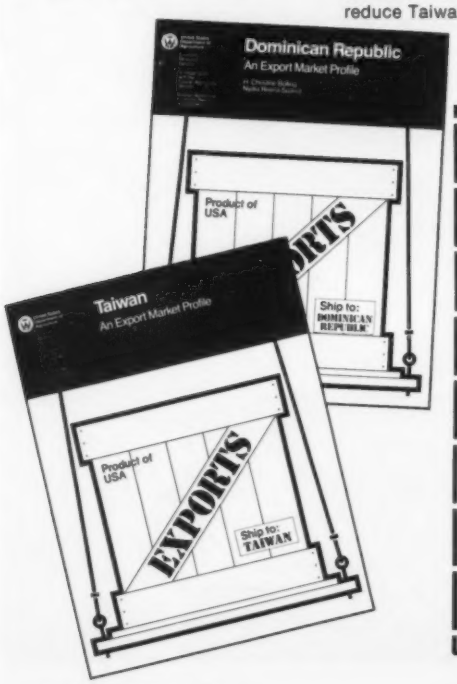
But that was before Taiwan's phenomenal economic growth starting in the early 1960's. Through the rest of this decade, the expanding industrial economy of Taiwan should continue to maintain its strong demand for U.S. farm exports.

Taiwan: An Export Market Profile by Donald A. Sillers. (Published August 1983; 88 pages of text, tables, and charts; GPO Stock No. 001-000-04345-5; $4.50.)

U.S. agricultural exports to Taiwan

	$thousands
1973	208,032
1974	503,574
1975	493,668
1976	516,163
1977	612,290
1978	729,167
1979	977,518
1980	1,109,148
1981	1,105,192
1982	1,165,980
1983	1,236,677

Fiscal years.



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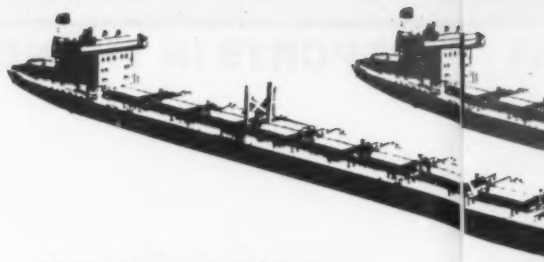
Exports: Why the Tons Came Tumbling Down



It's a multibillion dollar question to U.S. farmers, but there's more to the answer than meets the eye: What happened to U.S. agricultural exports?

After a decade of strong and steady growth, America's farm trade took an unexpected turn in the early 1980's. From fiscal 1981 to 1983, the dollar value of U.S. agricultural exports dropped 21 percent. Export volume declined 11 percent.

Understanding this turnaround may provide lessons for the future, according to John Dunmore of USDA's Economic Research Service. For Dunmore and Jim Longmire of Australia's Bureau of Agricultural Economics, the list of causes commonly cited by trade analysts isn't enough. It provides little information about the relative impact of each cause and may even be misleading.

For example, global recession usually takes much of the blame, and that's partly correct, Dunmore says. "By itself, however, the slowdown in world economic growth would have retarded, not reversed, export growth."

Rather than looking only for a bottom-line explanation of why exports declined, he urges a wider focus on the principal sources of change in U.S. farm trade. Some factors push trade in a generally positive direction, others in a negative direction, and still others in different directions depending on the commodity in question.

To better understand these trade dynamics, Dunmore and Longmire took a more systematic approach to the recent export downturn. They started by identifying eight major factors affecting U.S. farm trade during the 1981-83 period: Foreign crop production; foreign population growth; foreign income growth; world debt problems; foreign exchange rate movements; declining ocean freight rates; Soviet purchasing decisions; and European Community pricing policies.

Using empirical analysis and mathematical models, the economists then attempted to isolate each of these factors and to quantify its individual impact on U.S. farm exports.

The spotlight was on wheat, coarse grains (corn, sorghum, barley, oats, and rye), and soybeans and meal. Together, the three commodity groups make up around 85 percent of U.S. agricultural export volume and 60-65 percent of export earnings. Between fiscal 1981 and 1983, these commodities accounted for nearly four-fifths of the decline in U.S. farm export earnings.

Dunmore and Longmire's conclusions not only challenge conventional wisdom in some respects. Their results also constitute an important first step in building a better framework for anticipating trade trends and perhaps avoiding actions that may inadvertently damage the U.S. market position.

Crops, Population, and Income

Foreign crop production had mixed impacts on the U.S. export picture from 1981 to 1983. Foreign production of wheat rose 26.4 million metric tons, and production of soybeans (meal equivalent basis) rose 1.3 million tons. On the other hand, output of coarse grains dropped about 8.8 million tons.

The rise in foreign wheat and soybean production tended to reduce demand for U.S. wheat and soybeans. All other conditions being equal, the drop in coarse grains production abroad would have translated into an increase in U.S. exports.

Population growth, one of the more dependable demand generators, continued at a 1.8-percent annual rate in the rest of the world. Alone, it would have boosted demand for U.S. exports in all three commodity groups.

Faded Expectations

Until recently, asking whether U.S. agricultural export earnings would set another record in the coming year was like asking whether the sun would rise. Growth was taken for granted.

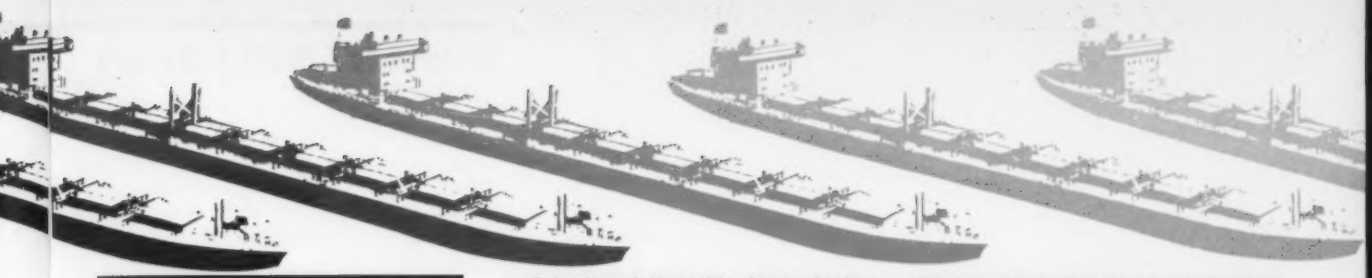
In 1981, earnings rose predictably for the 12th straight record year. Since fiscal 1970, the value of U.S. farm product sales to world markets had climbed from just $7 billion to $43.8 billion, an average annual increase of $3.3 billion.

Export volume was also growing rapidly, although gains could not be counted on each and every season. In that respect, 1981 seemed to be one of those off-pattern years. Higher commodity prices boosted earnings, but volume slipped 1½ million metric tons from 1980's record. It was still the second largest export tonnage in U.S. history. More than 162 million tons of American farm products were shipped abroad, up from less than 62 million tons in 1970. Over the 12-year period, the average annual gain was 9 million tons.

In late 1981, USDA analysts had little cause to believe that the next few years would depart so dramatically from events of the past. Along with most private forecasters, they were looking ahead to new highs in export volume and value in 1982. Instead both 1982 and 1983 provided a shock to expectations that had been fed by more than a decade of export growth. The sun continued to rise, but it didn't shine on U.S. farm trade.

By 1983, export earnings had dropped to $34.8 billion, down $9 billion from the record 2 years earlier. Volume had eroded to 144.8 million tons, down 17½ million tons from 1981 shipments.

What about this year? Analysts are



By itself, the global recession would have retarded, not reversed, export growth.

Of course, an increase in population doesn't result in greater demand without the buying power to go along with it. *Per capita incomes* grew at a much slower rate in the early 1980's than they did during the 1970's. The slowdown limited and, in some cases, halted the expansion in demand for U.S. farm products. Yet, despite the worldwide recession, incomes did rise slightly between 1980/81 (July-June) and 1982/83.

Using observed relationships between per capita income growth in various regions of the world and growth in demand for U.S. farm products, the economists found that this factor had a small, positive impact on demand for U.S. wheat and coarse grains, and a negligible role in the soybean trade picture.

"Clearly," says Dunmore, "the recession in the world economy over the past 2 years had a major direct impact in slowing, but not reversing, growth in demand for grains and soybeans."

Debts, Dollars, and Freight Rates

Although *problems of growing indebtedness* in many nations were not unrelated to the global recession, Dunmore and Longmire viewed this factor separately. They centered their analysis on Eastern Europe, Mexico, Brazil, and Nigeria. Indebtedness difficulties substantially curtailed the ability of these nations to import agricultural products. Coarse grains were hit particularly hard.

Foreign exchange rate movements were another major minus in export demand for U.S. agricultural goods during the period studied. On a trade-weighted basis, the U.S. dollar appreciated about 30 percent against other major currencies after adjusting for inflation.

The stronger dollar made U.S. goods more expensive for foreign buyers in terms of their own currencies, it reduced the price competitiveness of U.S. products relative to the products of other suppliers, and it provided an incentive for production expansion by customers and competitors alike. As a result, it had a sharply depressing, across-the-board impact on U.S. sales.

A more positive note was struck by *ocean freight rates*, which declined significantly in the last 2 years. Adjusted for inflation, freight rates to Japan and major European ports were cut in half since 1980/81, largely because of an excess of shipping capacity and a reduction in world trade volume of grains, minerals, coal, and other bulk commodities.

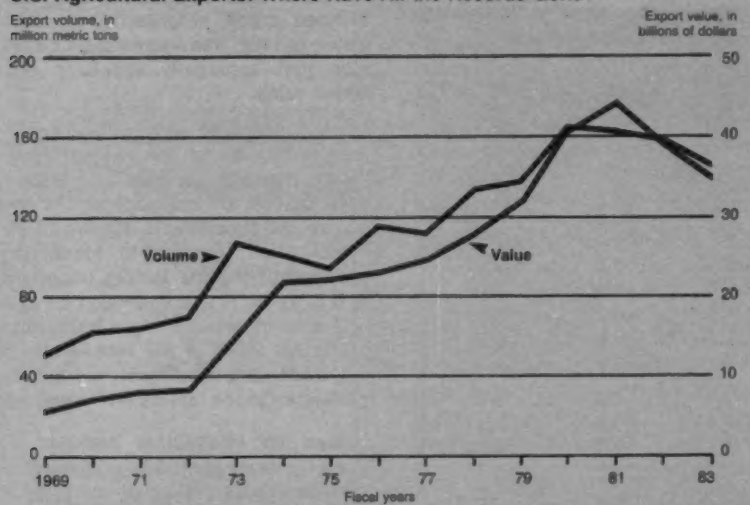
Soviet and EC Markets

The U.S. share of the Soviet grain market has shown some improvement since the 1980/81 U.S. grain embargo, when the Soviet Union diversified its suppliers. The negative impact of *USSR purchasing decisions* during 1981-83 came from improved feeding efficiency in the Soviet Union and the substitution of more domestically grown feeds for imported grains. This reduced total Soviet grain imports, although the grain savings were, to some extent, offset by increased soybean meal use—a plus for U.S. soybean exports.

European Community (EC) pricing policies during 1981 to 1983 encouraged wheat and coarse grain production within the EC by raising internal support prices. EC policies also discouraged grain imports through variable levies and minimum import prices.

fairly confident of some recovery in export earnings, reflecting higher average commodity prices. Recent forecasts suggest earnings may rise 8 percent to around $37.5 billion, although export volume is expected to drop again—perhaps to about 140 million tons.

U.S. Agricultural Exports: Where Have All the Records Gone?



Soybean and meal imports, on the other hand, were not subject to levies. As a result, these products were relatively underpriced, encouraging increased use in animal rations and increased imports. During the period in question, U.S. soybean exports were judged to benefit from EC pricing policies, while U.S. corn and wheat exports were hurt.

No Dominant Factor

All these pluses and minuses—and the estimated quantity impacts that go with them—are summarized in the accompanying table. From their analysis, Dunmore and Longmire concluded that no single factor was dominant across all the commodities studied.

For U.S. wheat exports, the rise in foreign wheat production stood out as the major negative factor. All other conditions being equal, it would have depressed sales by an estimated 14.7 million tons. Population growth provided the strongest positive push.

In coarse grains, foreign exchange rate movements—the strength of the U.S. dollar—severely curtailed U.S. exports. World debt problems were also a significant factor. Bolstering the positive side were foreign population growth, declining freight rates, and a downturn in foreign production of coarse grains.

U.S. soybean sales were most negatively influenced by exchange rates, while the greatest positive influence came from Soviet buying decisions.

"It's worth noting that exchange rates and indebtedness problems were the only two factors with a negative impact across all the commodities examined," Dunmore says. "Meanwhile, rising foreign incomes, population growth, and declining freight rates provided a boost (or had negligible impact) across all the commodities."

However, both economists quickly caution that their "partial equilibrium model" is not, by any means, the final word in measuring the impact of key trade factors. It does not, for example, perform well as a predictor of the actual change in U.S. export volume.

Balancing the Impacts

When all the estimated impacts are figured in, the analysis shows a 17.5-million-ton reduction in U.S. wheat exports between 1980/81 and 1982/83. Wheat exports actually increased in 1982 and then fell in 1983. On an October-September fiscal year basis, the net change from 1981 to 1983 was a 4.8-million-ton reduction.

The analysis shows a 2.1-million-ton reduction in soybean and meal exports. The actual net change was a 3.9-million-ton increase.

In coarse grains, the analysis came closest to the mark. It estimates a 13.3-million-ton drop; the record shows a 15.6-million-ton drop.

One explanation for the differences is unaccounted factors. "The eight factors we identified do not represent a complete list of the variables impacting on U.S. export demand," Dunmore explains.

Take the case of India, which accounted for an added 5 million tons in U.S. wheat exports since 1980/81. The reason wasn't reduced production or increased per capita income—factors which were considered. It was a simple policy decision by the Indian government to import additional wheat rather than drawing on domestic production to build public stocks. The U.S. blended credit program for exports, begun in 1982, was another policy decision that apparently added to U.S. wheat sales.

Unaccounted (and perhaps unaccountable) factors are not the only limitation. "More rigorous analysis is needed," says Dunmore. "Our approach is too narrow and simplistic to capture all the complexities involved in identifying and quantifying the factors important in U.S. trade. It was intended only as a first step in establishing a framework for further study of the factors affecting trade and how much we lose or gain when those factors are in play." □

[Based on information provided by John Dunmore of the International Economics Division, Economic Research Service.]

Estimated Impact of Identified Trade Factors on U.S. Export Volume from 1980/81 to 1982/83[1]

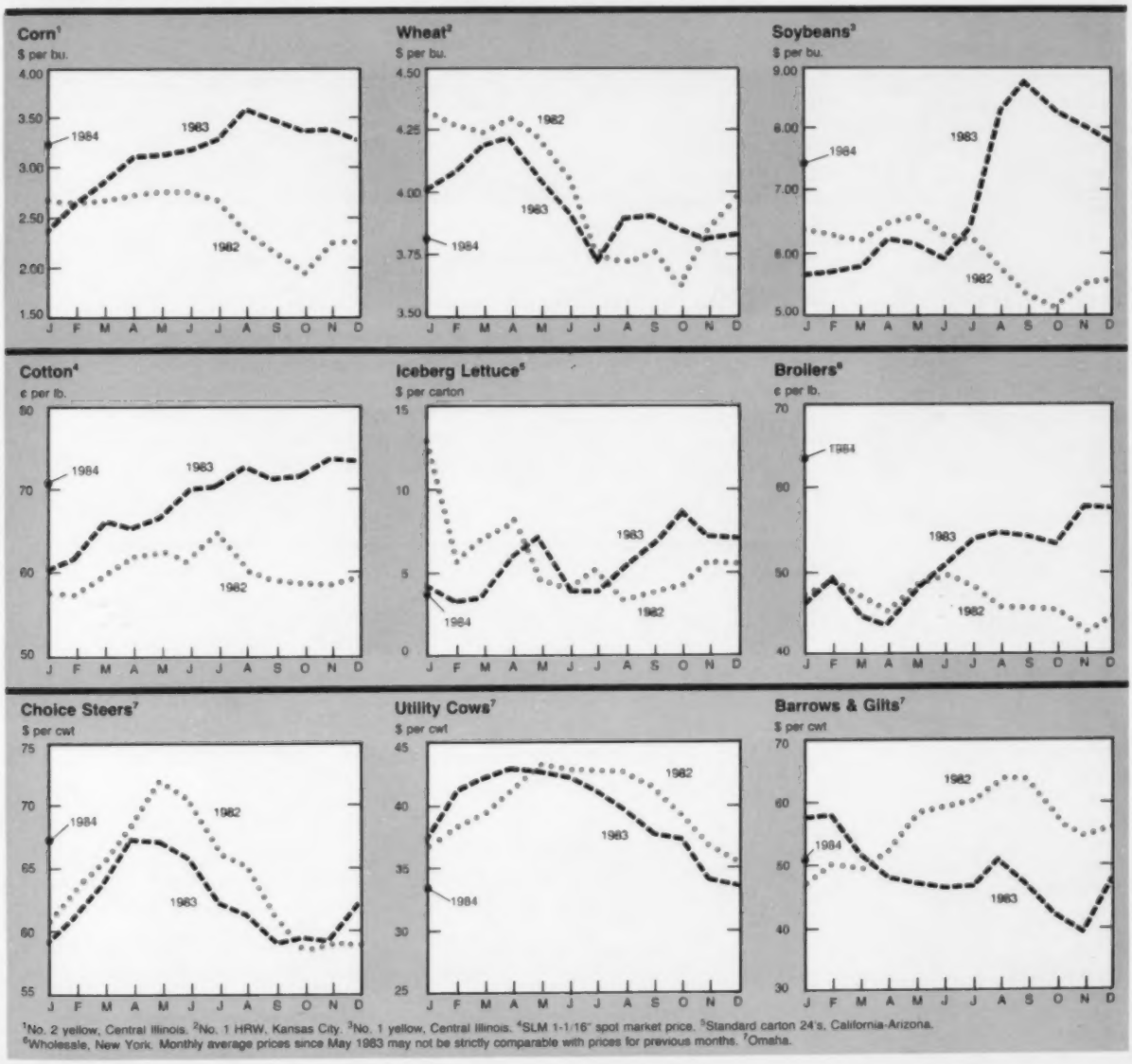
	Wheat	Coarse grains	Soybeans and meal
	million metric tons		
Foreign crop production	−14.7	+6.4	−0.6
Foreign population growth	+5.7	+10.6	+0.5
Foreign income growth	+0.9	+1.0	—[3]
Indebtedness problems	−3.6	−9.6	−1.1
Foreign exchange rates	−4.3	−21.5	−3.0
Declining freight rates	+1.3	+6.9	+0.4
USSR purchasing decisions	−2.5	−5.2	+1.1
EC pricing policies	−0.3	−1.9	+0.6
Estimated net impact on export volume[1]	−17.5	−13.3	−2.1
Actual change in export volume[2]	−4.8	−15.6	+3.9

[1] July-June years. [2] October-September fiscal years. [3] Negligible impact.

FARMLINE TRENDS

Monthly Price Monitor

USDA's index of farm prices rose about 2% from December to January. The all-crops index was unchanged, but the livestock index rose nearly 5%. Wholesale markets (below) showed declines for soybeans, cotton, and lettuce, but higher prices for broilers, fed cattle, and hogs. Year-earlier comparisons (January 1984 vs. January 1983) give the crops side a better look. Corn began the new year up almost 90¢ a bushel, soybeans up $1.80, and cotton up a dime a pound. Wheat and lettuce were down. In livestock, broiler and cattle prices were above 1983 levels; both cows and hogs were down.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16" spot market price. [5]Standard carton 24's, California-Arizona. [6]Wholesale, New York. Monthly average prices since May 1983 may not be strictly comparable with prices for previous months. [7]Omaha.

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